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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/686,123

10/14/2003

Jayshree Seth

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06/26/2008

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EXAMINER

COLE, ELIZABETH M

ART UNIT

PAPER NUMBER

1794

NOTIFICATION DATE

DELIVERY MODE

06/26/2008

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JAYSHREE SETH, RONALD W. AUSEN and KIM C. SACHS

Appeal 2008-2391
Application 10/686,123
Technology Center 1700

Decided: June 24, 2008

Before EDWARD C. KIMLIN, CATHERINE Q. TIMM, and KAREN M.
HASTINGS, *Administrative Patent Judges*.

TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1, 3, and 5-42. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

I. BACKGROUND

The invention relates to a cleaning sheet. Figure 6 below shows a schematic drawing of one embodiment of the cleaning sheet.

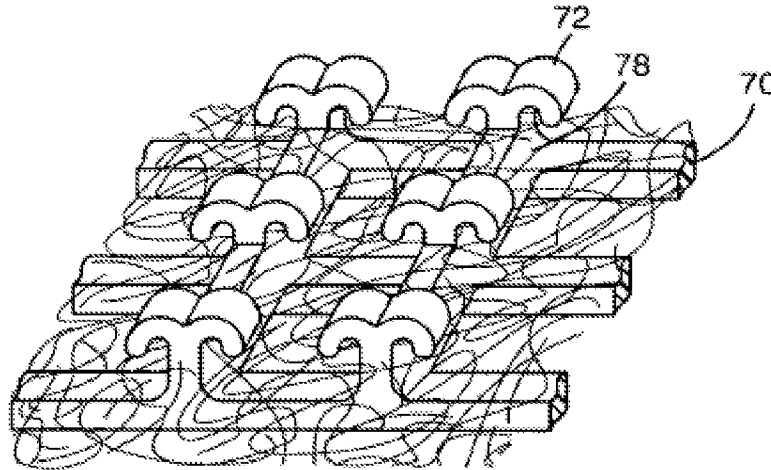


Fig. 6

The embodiment shown in Figure 6 includes a protrusion-containing backing element of strands 70 and 78 with hook elements 72 extending from strands 78. The backing element is embedded into a fibrous substrate to form the cleaning sheet (Spec. 3:9-11; 3:22-28; and 12:17-21). Claim 1 is illustrative of the subject matter on appeal:

1. A cleaning sheet comprising a composite of protrusion containing backing element embedded within a fibrous substrate, the composite having a first face and a second face and the protrusion containing backing element having a first face and a second face with protrusions extending from at least one face of the composite, wherein the protrusion containing backing element is embedded within the fibrous substrate such that individual fibers forming the fibrous substrate form at least in part the first and second face of the composite, the protrusion containing backing element is formed of substantially continuous first and second sets of intersecting strand elements extending in at least two directions where at least one set of

strand elements have integral extrusion formed protrusions extending from at least one face of the strands, the two sets of strands being separated from one another and where individual fibers forming the fibrous substrate are located between the strands.

Appellants request review of the sole rejection maintained by the Examiner, namely, the rejection of claims 1, 3, and 5-42 under 35 U.S.C. § 103(a) as unpatentable over US 2003/0049407 A1 issued Mar. 13, 2003 to Kacher et al. (“Kacher”) in view of US 4,537,819 issued Aug. 27, 1985 to Schortmann et al. (“Schortmann”) and US 3,638,270 issued Feb. 1, 1972 to Schlegel, Jr. et al. (“Schlegel”).

II. DISCUSSION

The issue on appeal arising from the contentions of Appellants and the Examiner is: has the Examiner established that the prior art as a whole would have suggested to those of ordinary skill in the art forming the claimed cleaning sheet with a protrusion containing backing element of the claimed construction embedded within a fibrous substrate?

We answer this question in the negative.

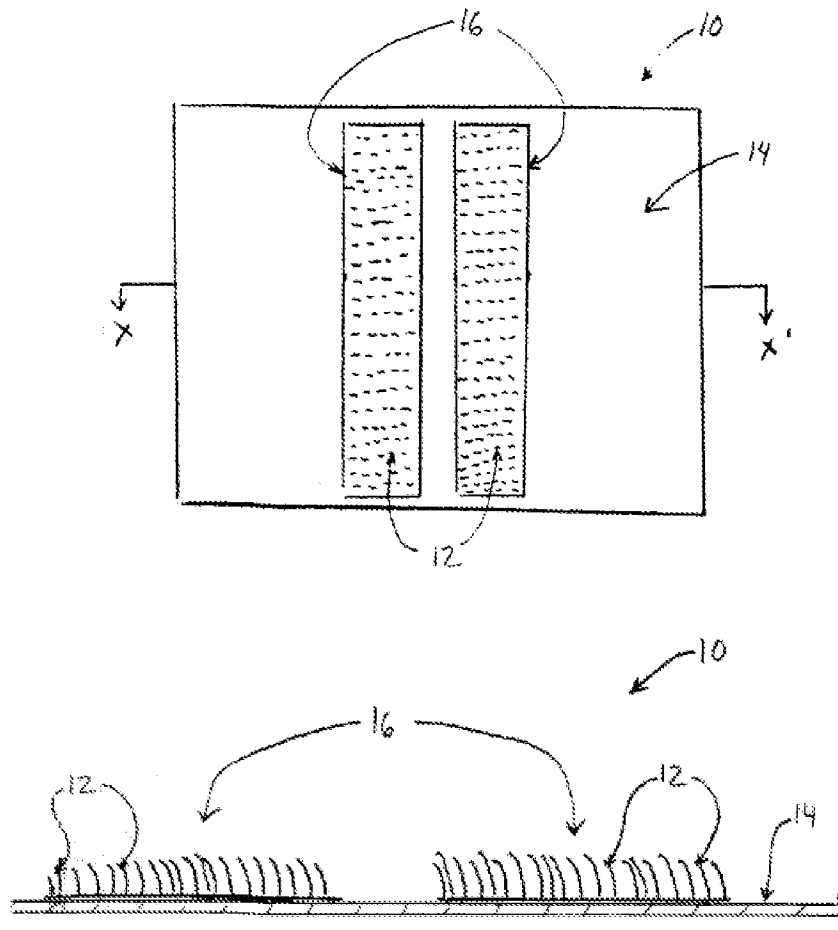
The examiner bears the initial burden of presenting a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). In order to establish a prima facie case of obviousness, the examiner must show that each and every limitation of the claim is described or suggested by the prior art or would have been obvious based on the knowledge of those of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988). “[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning

with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 1996) (*quoted with approval in KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007)).

According to the Examiner, Kacher suggests a cleaning sheet having a protrusion-containing backing element affixed to a substrate that can be a nonwoven fabric and can comprise a scrim, and while Kacher does not embed the backing element into the nonwoven, it would have been obvious to one of ordinary skill in the art to embed as claimed because, as taught by Schortmann, “this configuration provides the best cleaning and absorbing material.” (Ans. 4.)

However, as pointed out by Appellants, the cleaning tool of Schortmann contains different materials for different functions than those of Kacher (App. Br. 4-5; Reply Br. 2-7).

Kacher describes a cleaning sheet having protrusions for removing debris such as hair, dirt, and dust from soft surfaces such as carpeting and upholstery (Kacher, ¶ 2). The cleaning sheet is formed by either attaching strips or pieces of adhesive-backed hook material such as VELCRO onto a substrate or “printing” the protrusions directly onto the substrate (Kacher ¶¶ 111-114; ¶ 120; see also Example 1 at ¶ 184). The substrate can be a nonwoven, woven, or a polymeric film (Kacher ¶ 43). Figures 1 and 2 below show one embodiment of Kacher’s cleaning sheet.



As shown above, adhesive backed strips (zones 16) of VELCRO hook material (protrusions 12) are affixed to the face of substrate 14 (Kacher ¶¶ 120 and 184-185).

Schortmann describes a composite fabric for scrubbing and cleaning no wax floors, pots and pans, dishes etc. (Schortmann, col. 1, ll. 5-14 and col. 1, l. 67 to col. 2, l. 11). The composite fabric consists of nonwoven webs hydroentangled into a reticulated foam as shown in Figure 2 below:

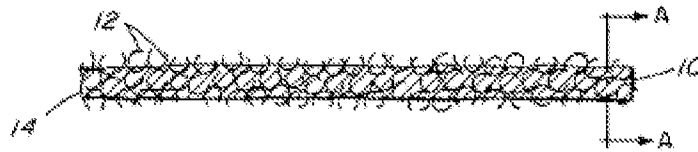


Figure 2 of Schortmann shows portions of the foam 12 protruding from the nonwoven fabric 10 of the web 14 (Schortmann, col. 3, ll. 53-56). The foam protrusions act as bristles and are firm enough to scrub surfaces, but soft enough so that they do not scratch the types of surfaces to be cleaned (Schortmann, col. 2, ll. 1-11). The nonwoven absorbs liquid and entraps dirt in the liquid within the interior of the fabric (Schortmann, col. 2, ll. 31-34). “This entrapment of dirt into the fabric is due basically to the open structure of the nonwoven, which allows the dirt to enter the fabric and, the hydrophilic nature of the foam and fibers used in the fabric, which absorbs liquid that has dirt within it.” (Schortmann, col. 3, ll. 24-34).

The scrubbing and cleaning attributes of the Schortmann composite fabric are due to the combination of the foam and fibers. In the Examiner’s proposed combination, Kacher’s nonwoven is embedded in the protrusion-containing strips of that reference (Ans. 3). In the Examiner’s proposed combination, there is no foam backing. The Examiner has not established that one of ordinary skill in the art would have reasonably expected to obtain the dirt absorbing and entrapping quality of Schortmann’s composite fabric without the absorbent foam backing. Nor has the Examiner established that those of ordinary skill in the art would have expected to successfully embed a nonwoven on the protrusions (e.g., VELCRO hooks) of Kacher. The protrusion-containing strips of Kacher are of a very different configuration,

shape and size than the reticulated foam of Schortmann. The function of the Schortmann cleaning tool is also different. It is for damp mopping floors or washing dishes. In contrast, the function of the Kacher cleaning tool is for removing hair, dirt, and dust from soft surfaces such as carpeting and upholstery. Based on the differences in functions and materials, differences not bridged by the Examiner's reasoning, we determine that the evidence does not support a conclusion that it would have been obvious to one of ordinary skill in the art to embed the nonwoven in the protrusion-containing strips of Kacher.

Further, we disagree with the Examiner's determination that the strips of Kacher are "protrusion containing backing elements" as claimed (Ans. 3). The claims require a backing element formed of "substantially continuous first and second sets of intersecting *strand* elements" (Claim 1 (emphasis added)). The Examiner finds Figure 1 of Kacher depicts strands of a rectangular shape (Ans. 3). We do not agree. The VELCRO-type strips adhered to the substrate of Kacher shown in Figure 1 do not have the necessary sets of strands. The hook protrusions of the VELCRO extend from a film-like base, not from the face of strands. Appellants' Specification does not define strands, but the Specification shows and describes strands in conformity with the ordinary and accustomed meaning of strands as "a thread or threadlike part of anything." *See strand*. Dictionary.com. *Dictionary.com Unabridged (v 1.1)*. Random House, Inc. 2006 (accessed: June 11, 2008). The strips of Kacher are not threads or threadlike.

The claims further define the strand elements as "extending in at least two directions where at least one set of strand elements have integral

extrusion formed protrusions extending from the at least one face of the strands, the two sets of strands being separated from one another,” i.e., such as the two parallel sets of strands shown in Appellants’ Figure 6 having protrusions on the upper face of the strands.

We do not agree with the Examiner that Kacher and Schlegel together, as applied by the Examiner, suggest the claimed intersecting strands with integral extrusion formed protrusions extending as claimed (Ans. 4-5).

Schlegel describes a cleaning tool suitable for brushes, scouring pads, etc., and including a woven bristle pile (Schlegel, col. 1, ll. 10-11). The cleaning tool includes “a base formed of a material for supporting the tool for cleaning, and a woven cloth backing fabric secured to the base” (Schlegel, col. 1, ll. 18-21). Monofilaments woven into the backing fabric form bristles extending away from the backing fabric (Schlegel, col. 1, 21-31). Figure 6a shows the arrangement as follows.

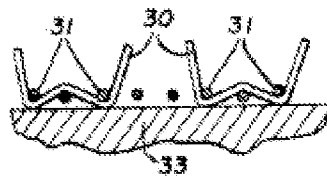


FIG. 6a

As shown above, the cleaning tool includes bristles 30 woven into the backing fabric 31 which is secured to backing fabric 33. We cannot agree with the rationale advanced in the rejection that the interweaving of bristles in a woven material as taught by Schlegel provides an adequate suggestion of crosslaying the strips of Kacher so they intersect as claimed (Ans. 5).

III. CONCLUSION

We conclude that the Examiner did not establish that the prior art as a whole would have suggested to those of ordinary skill in the art forming the claimed cleaning sheet with a protrusion containing backing element of the claimed construction embedded within a fibrous substrate.

IV. DECISION

The Examiner's decision is reversed.

REVERSED

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